

*Pat B1*

What is claimed is:

1. A delayed-action insecticide comprising an insecticidal vegetable oil insoluble anionic fluorochemical surfactant, the surfactant being applied in an insecticidal concentration in solution to a carrier in the form of dispersible nonliquid edible food to form a toxic bait.
2. The delayed-action insecticide of claim 1 wherein the anionic fluorochemical surfactant is a potassium perfluoroalkyl sulfonate having a chemical formula of  $C_nF_{2n+1}SO_3K$ , where  $n$  equals 6 or 8.
3. The delayed-action insecticide of claim 1 wherein the anionic fluorochemical surfactant is a potassium perfluoroalkyl cyclohexyl sulfonate having a chemical formula of  $C_nF_{2n-1}SO_3K$ , where  $n$  equals 7 or 8.
4. The delayed-action insecticide of claim 1 wherein the anionic fluorochemical surfactant is dissolved in a solvent which consists of a member selected from the group consisting of acetone and methanol.
5. The delayed-action insecticide of claim 1 wherein the carrier consists of a member selected from the group consisting of dried yellow corn meal, corn grit, crushed wheat, and cracked wheat.
6. The delayed-action insecticide of claim 1 wherein the insecticide further comprises soybean oil subsequently applied to the carrier as an attractant.
7. The delayed-action insecticide of claim 1 wherein the anionic fluorochemical surfactant has a concentration of 0.05 to 1.0% by weight.
8. The delayed-action insecticide of claim 7 wherein the anionic fluorochemical surfactant concentration is approximately 0.1 to 0.5% by weight.
9. The delayed-action insecticide of claim 6 wherein the anionic fluorochemical surfactant has a concentration of 0.3 to 0.5% by weight, the carrier has a concentration of approximately 9.47 to 94.5% by weight, and the soybean oil has a concentration of approximately 5.0% by weight.
10. The delayed-action insecticide of claim 2 wherein the anionic fluorochemical surfactant has a concentration of 0.05 to 1.0% by weight.
11. The delayed-action insecticide of claim 10 wherein the anionic fluorochemical surfactant concentration is approximately 0.1 to 0.5% by weight.
12. A delayed-action insecticide comprising an insecticidal vegetable oil insoluble anionic fluorochemical surfactant and a carrier in the form of deployable non-liquid edible food to form a toxic bait, produced by a method comprising the steps of:
  - dissolving the anionic fluorochemical surfactant in a solvent;
  - applying a sufficient amount of the surfactant/solvent solution to the carrier to provide an insecticidal concentration, thereby moistening the carrier; and
  - evaporating the solvent from the carrier.
13. The delayed-action insecticide of claim 12 wherein the method for producing the delayed-action insecticide further comprises the step of subsequently applying soybean oil to the carrier as an attractant.

--14. A delayed-action insecticide composition comprising:

(a) a solid food carrier impregnated with

(b) an insecticidally effective amount of an anionic  
fluorochemical surfactant which is insoluble in vegetable oil.

15. The delayed-action insecticide composition of claim  
14 wherein said anionic fluorochemical surfactant is a  
potassium perfluoroalkyl sulfonate having the chemical formula  
 $C_nF_{2n+1}SO_3K$  wherein n is 6 or 8.

16. The delayed-action insecticide composition of claim  
14 wherein said anionic fluorochemical surfactant is a  
potassium perfluoroalkyl cyclohexyl sulfonate having the  
chemical formula  $C_nF_{2n+1}SO_3K$  wherein n is 7 or 8.

17. The delayed-action insecticide composition of claim  
14 wherein said solid food carrier is selected from the group  
consisting of:

(a) dried yellow corn meal;

(b) corn grit;

(c) crushed wheat; and

(d) cracked wheat.

18. The delayed-action insecticide composition of claim  
14 wherein said anionic fluorochemical surfactant has a  
concentration of 0.05 to 1.0% by weight.

19. The delayed-action insecticide composition of claim  
14 wherein said anionic fluorochemical surfactant  
concentration is approximately 0.1 to 0.5% by weight.

20. The delayed-action insecticide composition of claim  
14 and further comprising an attractant.

21. The delayed-action insecticide composition of claim  
20 wherein said attractant is soybean oil.

22. The delayed-action insecticide composition of claim  
14 wherein said insecticidally effective amount is an amount  
which is effective against ants, roaches or termites.

23. The delayed-action insecticide composition of claim  
14 wherein said insecticidally effective amount is an amount  
which is effective against red imported fire ants.

24. The delayed-action insecticide composition of claim  
14 wherein said anionic fluorochemical surfactant is of the  
formula:



wherein:

(a)  $R_1$  is a fluoroaliphatic radical containing up to 20  
carbon atoms and

(b)  $R_2$  is selected from the group consisting of:

(i) alkaline earth metal;

' (ii) alkali metal; and

(iii) ammonium cation.

25. The delayed-action insecticide composition of claim 24 wherein said anionic fluorochemical surfactant has a concentration of 0.05 to 1.0% by weight.

26. The delayed-action insecticide composition of claim 24 wherein said anionic fluorochemical surfactant concentration is approximately 0.1 to 0.5% by weight.

27. A delayed-action insecticide composition produced by a method comprising the steps of:

(a) dissolving in a solvent an anionic fluorochemical surfactant which is insoluble in vegetable oil to form a surfactant/solvent mixture; then

(b) impregnating a solid food carrier with an effective insecticidally effective amount of said surfactant/solvent mixture; and then

(c) evaporating said solvent from said solid food carrier.

28. The delayed-action insecticide composition of claim 26 wherein said anionic fluorochemical surfactant is a potassium perfluoroalkyl sulfonate having the chemical formula  $C_nF_{2n+1}SO_3K$  wherein n is 6 or 8.

29. The delayed-action insecticide composition of claim 26 wherein said anionic fluorochemical surfactant is a

a <sup>16</sup>  
cyclohexyl  
potassium perfluoroalkyl sulfonate having the chemical formula  
 $C_nF_{2n-1}SO_3K$  wherein n is 7 or 8.

a <sup>27</sup>  
30. The delayed-action insecticide composition of claim  
26 wherein said solvent is selected from the group consisting  
of:

- (a) acetone and
- (b) methanol.

a <sup>delayed-action</sup>  
31. The delay-action insecticide composition of claim <sup>27</sup>  
26 wherein said solid food carrier is selected from the group  
consisting of:

- (a) dried yellow corn meal;
- (b) corn grit;
- (c) crushed wheat; and
- (d) cracked wheat.

a <sup>27</sup>  
32. The delayed-action insecticide composition of claim  
26 wherein said anionic fluorochemical surfactant has a  
concentration of 0.05 to 1.0% by weight.

a <sup>27</sup>  
33. The delayed-action insecticide composition of claim  
26 wherein said anionic fluorochemical surfactant  
concentration is approximately 0.1 to 0.5% by weight.

a <sup>27</sup>  
34. The delayed-action insecticide composition of claim  
26 wherein said method further comprises a step, subsequent to

the evaporating step, of adding an attractant to said solid food carrier.

35. The delayed-action insecticide composition of claim 34 wherein said attractant is soybean oil.

a 27 36. The delayed-action insecticide composition of claim 26 wherein said insecticidally effective amount is an amount which is effective against ants, roaches or termites.

a 27 37. The delayed-action insecticide composition of claim 26 wherein said insecticidally effective amount is an amount which is effective against red imported fire ants.

38. The delayed-action insecticide composition of claim 27 wherein said anionic fluorochemical surfactant is of the formula:



wherein:

(a)  $R_f$  is a fluoroaliphatic radical containing up to 20 carbon atoms and

(b)  $R_4$  is selected from the group consisting of:

- (i) alkaline earth metal;
- (ii) alkali metal; and
- (iii) ammonium cation.

39. The delayed-action insecticide composition of claim  
38 wherein said anionic fluorochemical surfactant has a  
concentration of 0.05 to 1.0% by weight.

40. The delayed-action insecticide composition of claim  
38 wherein said anionic fluorochemical surfactant  
concentration is approximately 0.1 to 0.5% by weight.--